

A new species of *Graphistylis* (Asteraceae: Senecioneae) from Minas Gerais, Brazil

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Abstract

A new species of *Graphistylis* (Senecioneae - Asteraceae) is described from State Park of Rio Preto, Minas Gerais, Brazil. *Graphistylis riopretensis* A. TELES & B. NORD. is illustrated, and compared with the related species *Graphistylis dichroa* (BONG.) D.J.N.HIND. A key to the species of *Graphistylis* from Minas Gerais state is provided.

Introduction

The genus *Graphistylis* was described by NORDENSTAM (1978) to accommodate the species of *Senecio* sect. *Dichroa* CABRERA. All the species of the genus are exclusive of southern and southeastern Brazil, and are characterized by the suffrutescent habit, leaves petiolate to subpetiolate, capitulescence corymbose-paniculate, heads commonly radiate or rarely discoid (*G. serrana* (ZARDINI) B.NORD.), ray florets normally 5, and style branches apically with a conspicuous elongated hair pencil and lateral shorter hair tufts (NORDENSTAM 1978, 2007). Another particularity of the genus can be observed in plants “*in vivo*”, viz. the wine colour present in stem, leaves and phyllaries. Frequently in the same plant the stem and abaxial leaf face vary in colour from green to wine.

The genus was described initially with six species. HIND (1993) combined *Cacalia dichroa* BONG. in *Graphistylis* as *G. dichroa* (BONG.) D.J.N.HIND, and later NORDENSTAM (1994) proposed the combination of *Senecio serranus* ZARDINI in *Graphistylis* (*G. serrana*) and without having knowledge of the publication

of HIND (1993) proposed again the combination of *C. dichroa* in *Graphistylis*. In the same year, HIND (1994) proposed the same combination as published by NORDENSTAM (1994) of the species described by ZARDINI (1992). However, this time the valid combination was the one proposed by NORDENSTAM (1994), which was published earlier in the same year and has priority.

The species of *Graphistylis* are characteristic of *campos de altitude* (high-altitude grasslands), a cool humid grass-dominated formation restricted to the highest summits (altitudes higher than 1,500 m above sea level) of the southeastern Brazilian highlands (SAFFORD 1999, GARCIA & PIRANI 2003), often associated with populations of *Sphagnum* and *Chusquea*, forming small clusters of shrubs (TELES 2008).

Up to now the genus comprised eight species (*G. argyrotricha* (DUSÉN) B.NORD., *G. cuneifolia* (GARDNER) B.NORD., *G. dichroa* (BONG.) D.J.N.HIND, *G. itatiaiae* (DUSÉN) B.NORD., *G. oreophila* (DUSÉN) B.NORD., *G. organensis* (CASAR.) B.NORD., *G. serrana* (ZARDINI) B.NORD. and *G. toledo* (CABRERA) B.NORD.), but in this paper we describe a new species, which so far has been collected only in Minas Gerais, Brazil, increasing the number of species in the genus to nine.

Description and Discussion

Graphistylis riopretensis A.TELES & B.NORD., sp. nov.

G. dichroae valde affinis, sed foliis oblanceolatis margine serratis (in illa foliis lanceolatis ad obovatis margine dentatis) et flosculorum radii laminis majoribus (13 mm longis et 6 mm latis; in *G. dichroa* 4–9 mm longis et 1.5–3 mm latis).

Type: Brazil. Minas Gerais: São Gonçalo do Rio Preto, Parque Estadual do Rio Preto, Pico Dois Irmãos, 10.VIII.2004, P. L. VIANA & N. O. F. MOTA 1825 (BHCB holotype). Fig. 1.

Perennial suffrutex, erect, ca. 1.5 m high, rhizomatous. Stem simple, multisulcate, medullated, foliose throughout, glabrous. Leaves alternate, oblanceolate, 3–11 cm long, 0.7–3 cm wide, flat, concolorous, pinnately veined, glabrous adaxially, sparsely hirsute abaxially, petiolate, apex acute, base obtuse, margin regularly serrate with small teeth; petioles 0.1–0.7 cm long, sparsely hirsute. Capitulescence broadly paniculiform. Heads heterogamous, radiate, pedunculate; peduncles 2.5–4 cm long, bracteolate, hirsute; bracteoles lanceolate, 3–4 mm long, hirsute. Involucre campanulate, 9–11 mm long, 7–9 mm wide, calyculate; calycular bracts ca. 5, lanceolate, 3–4.5 mm long, ciliate; phyllaries 13, oblong, glabrous dorsally, with apex acute, wine-coloured and penicillate, margin scarious-hyaline; receptacle flat, alveolate. Ray florets 8, pistillate; corolla liguliform, yellow; tube

5.5 mm long; lamina 13 mm long, 6 mm wide, 6-nervate, apex 3-dentate; style 9 mm long, style branches 4 mm long. Cypselas terete, 2.5 mm long, glabrous; pappus bristles 8 mm long, persistent. Disk florets ca. 20, perfect, corolla tubular, 10 mm long, 5-lobate; lobes 1.5–2 mm long, anthers 2.5 mm long, base obtuse, connectival appendage oblong, 0.5 mm long; style 11.5 mm long, style branches 2.5 mm long, apex papillose, obtuse, with a conspicuous elongated hair pencil and lateral shorter hair tufts. Cypselas terete, 2.5 mm long, 10-ribbed, glabrous; pappus bristles 9 mm long, persistent.

Geographical distribution and habitat: *Graphistylis riopretensis* is presently known only from a single collection in the municipality of São Gonçalo do Rio Preto, in State Park of Rio Preto, Minas Gerais state (Fig. 2). Like the other species of the genus, *G. riopretensis* occurs in *campos de altitude* (high-altitude grasslands), in altitudes ranging from 1,800 to 1,830 m above sea level.

Conservation status: Based on the presently available information, the new species can be scored, considering IUCN conservation criteria (IUCN 2001, TELES & NAKAJIMA 2006), as critically endangered (CR), since its area of occurrence is smaller than 100 km², its area of occupancy is smaller than 10 km², and it is known from only one locality (criteria B1abi,ii, B2abi,ii).

Phenology: Flowers and fruits were collected in August.

Notes: *Graphistylis riopretensis* is closely related to *G. dichroa*, but is distinguishable *inter alia* by its leaves oblanceolate with margins serrate (vs. leaves lanceolate to obovate and with margins dentate), as well as the larger ray florets (13 mm long, 6 mm wide, as compared to 4–9 mm long and 1.5–3 mm wide in *G. dichroa*). For further differences, cf. the key below.

Key to species of *Graphistylis* from Minas Gerais state

1. Leaves with the abaxial face densely white-tomentose
..... *Graphistylis argyrotricha*
- 1'. Leaves glabrous on both faces or only hirsute on the veins of the abaxial face.
2. Leaves more than four times longer than wide.
3. Leaves lanceolate to obovate, margin dentate; peduncles to 2.5 cm long; phyllaries 8; ray florets 5–7, tube 0.3–5 mm long, ligule 4–9 mm long, 1.5–3 mm wide; disk florets with corolla 4–9 mm long *Graphistylis dichroa*
- 3'. Leaves oblanceolate, margin serrate; peduncles more than 2.5 cm long; phyllaries 13; ray florets 8, tube 5.5 mm long, ligule 13 mm long,

6 mm wide; disk florets with corolla 10 mm long.....
 *Graphistylis riopretensis*

2'. Leaves less than four times longer than wide.

4. Leaves normally concolorous or less commonly adaxially greenish and abaxially wine-coloured, margin entire to regularly crenate, revolute, venation reticulate in both faces; phyllaries 11 *Graphistylis itatiaiae*

4'. Leaves notably discoloured, adaxially dark brownish and abaxially lighter brownish, margin regularly dentate, flat, pinnately veined; phyllaries 8–10 *Graphistylis organensis*

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